

NICET Certification In Fire Alarm Systems

A step-by-step guide

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WE SUPPORT AND ENCOURAGE NICET CERTIFICATION

Table of Contents

WELCOME!	3
NICET BACKGROUND	4
NICET REQUIREMENTS BY STATE	5
NICET CERTIFICATION BY STATE AS OF 3/15/2006	6
3 STEPS TO CERTIFICATION	7
STEP 1: REVIEW THE FOUR CERTIFICATION CRITERIA	8
STEP 2: THE TECHNICIAN APPLICATION FORM	9
PART I: APPLICANT INFORMATION.....	9
PART II: WORK HISTORY	9
PART III: PERFORMANCE VERIFICATION	9
PART IV: WORK ELEMENT SELECTION AND VERIFICATION.....	9
STEP 2: THE TECHNICIAN APPLICATION FORM	10
STEP 2: THE TECHNICIAN APPLICATION FORM	11
STEP 2: THE TECHNICIAN APPLICATION FORM	12
PERSONAL RECOMMENDATION (REQUIRED FOR LEVELS III & IV).....	12
STEP 2: THE TECHNICIAN APPLICATION FORM	13
SUBMIT YOUR APPLICATION:	13
STEP 3: THE EXAM	14
TEST-TAKING TACTICS	15
“I’VE TAKEN MY EXAM, NOW WHAT?”	16
GREASING THE SKIDS	17
ADDITIONAL RESOURCES	18

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Welcome!

In 1998, an apprentice electrician in my Fire Alarm Systems class asked me about NICET. Aside from references in NFPA 72® *National Fire Alarm Code*, I knew very little about it. Out of curiosity, I participated in the certification process to report what I discovered back to the curious student. What I found was a nationally accepted, albeit confusing, voluntary certification program. I found the process to be so convoluted and difficult to comprehend that it took longer than my 11-week class to gather and report useful information to the class. I took notes along the way and turned my notes into an Element Review Handbook.

Authorities Having Jurisdiction (AHJ) throughout the United States recognize the value of NICET certification. Today, more than half of all U.S. States require some level of NICET certification of fire protection, designers, installers, and contractors. Many city and county municipalities require either a level III or IV certificate holder or a Professional Engineer (PE) to sign design drawings.

NICET does an exemplary job of ensuring that an applicant is qualified before granting certification. One common misconception is that an applicant need only pass an exam to become certified. The examination requirement is only one of four criteria used to assess the abilities of the applicant. While it's true that you may attend an exam preparation seminar to prepare for an exam, the three other criteria; work experience, personal recommendation, and supervisor evaluation are seriously considered during the certification process.

The fact that a NICET certificate holder in Maine is given the same consideration as a certificate holder in California is the most valuable feature of this voluntary certification program. As state agencies continue to struggle with reciprocal licensing agreements, the NICET program allows technicians and technologists to rise above it all and pursue job opportunities nationwide.

Your initiative to find out more about NICET says a lot about you and I applaud you for that. I hope that this Step-by-Step guide and my Element Review Handbooks will help you through the certification process.

Good luck and have fun!

Mike

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NICET Background

- National Institute for Certification in Engineering Technologies.
- Founded in 1961.
- A not-for-profit division of NSPE.
- Provides voluntary certification in engineering technology

The NICET mission is to be an independent, internationally recognized evaluator of knowledge and experience; to define and support career paths; and to ensure continued professional development of engineering technicians and technologists.

The NICET vision is to be the leader in recognizing, through certification, engineering technicians and technologists.

The job-task certification program got its start in 1976 while NICET was working on a US Federal Highway Administration contract.

- More than 30,000 active NICET certificates in about 40 fields
- More than 10,000 of the 30,000 are in Fire Alarm Systems
- More than 4,000 of the 30,000 are in Sprinkler System Layout

NICET provides nationally applicable voluntary certification programs covering several broad engineering technology fields and a number of specialized sub-fields.

The value of NICET certification

- Increased professional stature.
- Increased opportunities for advancement.
- Quick entry into job assignments that would otherwise require extensive on-the-job training.
- Opportunities for job assignments where there are regulations or contract provisions that require NICET certification.

NICET Requirements by State¹

- AK Level II to install, test or maintain. Level III or PE to sign design drawings.
- AZ Gilbert and Scottsdale require a level III to sign design drawings.
- CO City of Colorado Springs requires level III or PE to sign design drawings.
Cities of Westminster and Aspen require level II to sign design drawings.
Denver requires NICET level II & 20 question exam.
- DE Level III or passage of level III work elements required to take State exam.
- LA Fire Alarm Contractor is required to employ a level III.
- MI Fire Alarm Specialty Technician License requires level II.
- MT With manufacturers' certification you may sell, service, and install those equipment lines.
Level II allows you to work with all manufacturers.
- NC Level II for Fire Alarm Technician and level III for Superintendent.
- NE Level II certification is accepted as an alternative to taking the Nebraska State Fire Marshal's exam for Fire Alarm Inspector's license.
- NJ Atlantic City requires level II to inspect, maintain, or repair.
- NV Designers are required to be PE or NICET Level II.
- OK Unlimited Fire Alarm Technician requires level II or NBFSA level 2B.
- OH State allows level III/IV to apply to State for certification as designer.
- OR Corvallis requires level III or PE to sign design drawings.
- PA Philadelphia will require level II by 1/1/2000 and Level III by 1/1/2002.
- SC Fire Alarm Contractor is required to employ a level III.
- TX Level II for installer and level III for Fire Alarm Planning Superintendent.
- WA The City of Camas requires a level III or PE to sign design drawings.
Spokane requires NICET level II for Fire Alarm Installer's license
- WV Requires NICET certification of at least one employee.

¹ Local requirements are subject to change.

NICET Certification by State as of 3/15/2006²

State	Level				Total	State	Level				Total
	I	II	III	IV			I	II	III	IV	
**	7	12	4	2	25	MT	11	48	11	5	75
AK	55	150	20	8	233	NC	131	166	45	34	376
AL	31	73	22	17	143	ND	5	9	7	2	23
AR	20	43	17	7	87	NE	23	67	9	8	107
AZ	97	137	46	21	301	NH	12	22	5	6	45
CA	305	415	99	74	893	NJ	105	189	34	23	351
CO	193	239	51	35	518	NM	7	26	3	9	45
CT	21	75	18	5	119	NV	38	61	22	6	127
DC	1	1	1	1	4	NY	125	334	62	41	562
DE	9	32	15	4	60	OH	80	183	69	35	367
FL	213	367	87	68	735	OK	25	124	19	10	178
GA	118	161	34	32	345	OR	42	57	19	14	132
HI	8	11	7	5	31	PA	165	279	89	53	586
IA	27	65	11	9	112	RI	4	16	25	2	27
ID	33	59	15	9	116	SC	41	76	27	11	155
IL	95	237	39	33	404	SD	5	9	4	0	18
IN	52	86	19	15	172	TN	49	94	23	16	182
KS	24	86	12	14	136	TX	123	285	226	87	721
KY	19	47	25	15	106	UT	17	44	11	6	78
LA	33	66	110	31	240	VA	120	114	37	27	298
MA	31	93	27	19	170	VT	0	6	0	1	7
MD	135	159	47	44	385	WA	66	179	28	28	301
ME	6	18	5	3	32	WI	35	99	19	7	160
MI	100	506	56	33	695	WV	33	25	5	1	64
MN	47	138	26	18	229	WY	9	5	2	3	19
MO	51	135	26	13	225						
MS	8	18	6	1	33	Total	3010	5946	1626	971	11553

² Source: NICET

3 Steps to Certification

Step 1: Understand the Four Certification Criteria:

1. Relevant Work Experience
2. Written Examination
3. Supervisor Evaluation
4. Personal Recommendation (level III & IV only)

Step 2: Complete the Technician Application Form:

- Applicant information
- Work history
- Performance verification
- Work element selection and verification

Step 3: Examination:

- What to expect on exam day
- Test-taking tactics
- I've taken my exam, now what?
- Greasing the skids

STEP 1: Review the Four Certification Criteria

1 – Relevant work experience.

Sufficient work experience relevant to the desired certification is necessary to qualify for a particular level of certification. The amount of experience required for each level is:

Level I - several months

Level II - 2 years minimum

Level III - 5 years minimum

Level IV - 10 years minimum

Your work experience must be progressively more technical and responsible.

2 – Written examination

You may select work elements for testing according to your personal employment situation and experience. Although it is possible to meet the Level II certification exam requirement in just one sitting, about half of all applicants need a second examination to finish the requirement.

3 – Supervisor Evaluation of On-The-Job Performance

Your immediate supervisor is required to affirm that he/she has personally observed you repeatedly and correctly perform the task(s) and/or apply the knowledge associated with the particular work element under a variety of on-the-job conditions.

4 – Recommendation from a Qualified Individual (for level III & IV)

A personal recommendation is required from a professional who is familiar with your technical capabilities and background, including the quantity and quality of your work experience.

Step 2: The Technician Application Form

Part I: Applicant Information

Section 1 – Applicant Information

- A: Name, address, phone #, email address, & SSN
- B: Employer name, address, phone #, & position
- C: Has your name changed?
- D: Do we have your permission to contact you via fax?
- E: Do we have your permission to contact you via email?

Section 2 – Examination Information

- 1: First choice of test center and exam date.
- 2: Second choice of test center and exam date.

Section 3 – Applicant's Statement of Understanding

Sign-here-press-hard

Part II: Work History – List your major responsibilities in each position that you've held. Give specific and detailed descriptions of each. Your employment history should be progressively more technical and responsible. Follow the instructions and describe your relevant job duties. Resumes and letters of recommendation do not satisfy these requirements and will not be considered

- Make copies of the form and mark page ___ of ___
- Use a separate page for each position
- Complete each block of information

Part III: Performance Verification

Section 1 – Applicant's Relationship with Verifier

- A: Verification will be provided by:
- B: Is the verifier a someone other than your supervisor?
- C: What time period did the verifier oversee your work?

Section 2 – Verifier's personal information

The verifier must complete the remainder of this form.

The verifier and personal recommender cannot be the same person

Section 3 – Verifier's statement

Please use an ink color other than black.

Part IV: Work Element Selection and Verification

Section 1 – Objectives

- A: Check off the item that describes your examination goal:
- B. Are you currently in a related educational program?

Section 2 - Work Element Selection and Verification

Choose up to 34 elements from the Program Detail Manual.

Step 2: The Technician Application Form

The Fire Alarm System program is designed for engineering technicians who engage in a combination of the following activities: System layout (plan preparation), system equipment selection, system installation, system acceptance testing, system troubleshooting, system servicing, and system sales.

Level I

TT (Technician Trainee)

Level III

ET (Engineering Technician)

Level II

AET (Associate Engineering Technician)

Level IV

SET (Senior Engineering Technician)

Technical areas covered include applicable codes and standards, types of signaling systems, supervision requirements, types of fire and smoke detectors, building occupancy considerations, basic electricity and electronics, and physical science fundamentals.

NICET classifies work elements in three types

General Work Elements are those whose tasks are performed regularly by all technicians in the specialty area.

Special Work Elements may be more specific to certain regional areas or specialty areas within the field/subfield.

Core Work Elements are General Work Element tasks that must be mastered before a technician can build on his or her knowledge and advance towards the upper levels of NICET certification.

Step 2: The Technician Application Form

You must pass these exam elements to complete the Level I exam requirement.	Level I – General	6
	Level I – Special	<u>2</u>
	Total	8

You must pass these work elements to complete the Level II exam requirement. Read note (a).	Level I – General	6a
	Level I – Special	2
	Level II – General	18
	Level II – Special	<u>4</u>
Total	30	

You must pass these work elements to complete the Level III exam requirement. Read notes (a), (b), and (c).	Level I – General	9c
	Level I – Special	3
	Level II – General	24c
	Level II – Special	6
	Level III – General	11c
	Level III – Special	<u>1</u>
Total	54	

You must pass these work elements to complete the Level IV exam requirement. Read notes (a), (b), (c), and (d).	Level I – General	9c
	Level I – Special	3
	Level II – General	26c
	Level II – Special	6
	Level III – General	15c
	Level III – Special	1
	Level IV – General	5c
	Level IV – Special	<u>2</u>
Total	67	

NOTES:

- (a) Work Element #31011, “Basic Metric Units and Conversion,” must be passed to achieve certification at Levels II, III, and IV.
- (b) Time restrictions dictate that no more than 34 work elements can be scheduled for any single examination sitting. Therefore, at least two examination sittings will be needed in order to complete this requirement.
- (c) All core work elements in this category must be passed to complete the exam requirement at this level.
- (d) Read very carefully the two sections applicable to Level IV certification in the PDM before seeking Level IV certification.

GENERAL NOTES:

Work elements passed which are in excess of the exam requirement for a particular type and level, but which are needed to meet the requirement at the next higher level is automatically applied to that higher-level requirement.

Use the Personal Tally Worksheet on page 19 of the Program Detail Manual to keep track of the number of work elements you have successfully passed.

Step 2: The Technician Application Form

Personal Recommendation (Required for Levels III & IV)

Section 1: Applicant's statement (Policy #2D)

Section 2: Recommender's information

The applicant completes the header information including name, address, social security number (or NICET certificate number), phone number, signature, and date. The remainder of the form must be completed by the recommender. The form is good for 1 year.

The Personal Recommender:

- Must be familiar with applicant's capabilities and background.
- Must attest to the quantity and quality of the applicant's work experience.
- May not be a relative or of a non-technical background.

NICET prefers recommendations by:

- Licensed Professional Engineers
- NICET certified Engineering Technologists
- NICET certified Senior Engineering Technicians

NICET will also accept recommendations by:

- Graduate engineers
- Scientists
- Senior level technicians and technologists
- Fire Marshals
- Code officials
- Other authorities having jurisdiction

THE PERSONAL RECOMMENDER AND THE WORK ELEMENT VERIFIER CANNOT BE THE SAME PERSON.

Statement to Recommender:

"NICET uses Personal Recommendation forms to help evaluate applicants' qualifications for certification. The Institute wishes to certify only those technicians whose character, ethics, and technical competency promote the engineering technology industry. In your appraisal of the applicant, please provide the following information completely and honestly."

Step 2: The Technician Application Form

Submit Your Application³:

Technician examination fee – \$195.00

When applying to test, include the examination fee and mail your application as soon as possible to improve your chance of reserving a seat for the exam at your preferred test center.

Send your exam application and fee to:

**NICET
c/o Bank of America
Dept 0037
Washington, DC 20055**

Other fees

Annual registry fee \$40.00

Certification is granted for a 3-year period. The registry fee is payable annually thereafter. Your notice to renew for the 3rd year will include a Continuing Professional Development form. You are required to account for 90 CPD points (see policy #30) before your certificate will be renewed for another 3-year term.

Base recertification fee \$90.00

Incremental fee \$30.00 per certificate

Your NICET certificate is good for three years. Approximately 6 months prior to the certificate expiration date, you will receive an Application for Technician/Technologist Recertification. In addition to the fees, you must document 90 Continuing Professional Development (CPD) points per certificate. Policy #30 describes the points you earn by activity, such as:

Active Practitioner - 24 CPD points per year

Regular, continuing involvement in the activities of the certification subfield as a part of your primary employment.

³ These fees are subject to change. Verify them with NICET.

Step 3: The Exam

On exam day, plan to arrive and check in at the test center by 8 a.m. The proctor will ask to see your Confirmation Notice, your picture ID and then you will sign in. The proctor will assign you a seat and read the rules and announcements. You should see your name and exit time on the white board at the front of the classroom. You will begin your exam at 8:30 a.m. If your test is scheduled to last longer than 3 hours, you are required to leave the classroom for a one-hour lunch break at 11:30 a.m.

Things to bring with you:

- The confirmation notice that you received from NICET along with picture ID (no picture ID = no test).
- Two #2 pencils with eraser plus highlighters of two different colors.
- Calculator with batteries, may be programmable (no computers).
- Code books, handbooks, standards, references, and manuals, which must be bound or contained in a 3-ring binder. Loose sheets of paper are not permitted.

The Exam

- Fan-fold test questions and a separate Scantron® answer sheet.
- Expect 5-10 questions per element and 1-2 minutes to answer each question.
- All questions are multiple-choice. You must choose the most correct answer.
- Be prepared to break for 1 hour at lunchtime and leave the testing room.
- A 60% score is required to pass an element.
- Use your time wisely and answer all questions, even if you must guess.

Test-Taking Tactics

Test-taking Tactics (for a 34-element exam)

- Begin reading the test questions. If you experience “brain-lock”, continue to read the test questions until you can confidently answer from memory.
- Highlight the test questions you are unable to answer quickly either from memory or by quickly confirming your choice by referring to your codes, standards, and handbooks.
- Continue reading test questions, highlighting those that you cannot answer quickly (1 minute or less) until you read all test questions. You should be able to accomplish this “first pass” before the lunch break.
- After the lunch break, begin re-reading the test questions you highlighted before lunch, spending more time to look up answers in your codes, standards, and handbooks. Be careful not to be mired in a complicated question you are not at all familiar with.
- You should be able to complete this “second pass” with at least 30 minutes remaining before the scheduled end of your test. Use the second highlighter color to mark those questions you haven’t a clue about. The time at which you will be expected to finish your exam should appear on the blackboard or whiteboard at the front of the classroom.
- After your “second pass”, begin to re-read the questions you highlighted with the second color and guess. Often times you can eliminate two answers as obviously incorrect leaving a 50-50 chance at guessing the correct answer.

With the remaining few moments before the end of your exam, review your answer sheet to ensure that the header information and all questions have been answered.

“I've taken my exam, now what?”

A score report will be mailed to you within 18 days at which time your work experience, personal recommendation, and supervisor evaluation will be reviewed by a NICET evaluator.

Your certification will be determined within 90 days. If you do not receive a notice within 120 days, contact NICET at (888) IS-NICET.

Once certified you will receive an award letter, a certificate suitable for framing, a wallet card, and a six-digit ID number. You may also add the CET suffix to your name, or a level-specific suffix;

Level I
TT (Technician Trainee)

Level III
ET (Engineering Technician)

Level II
AET (Associate Engineering Technician)

Level IV
SET (Senior Engineering Technician)

Once you're certified;

- Follow policy #30 (Continuing Professional Development).
- Prepare for the next exam cycle.
- Practice the secret handshake.

Greasing the Skids

NICET knows that waiting 90 days after your exam to see whether you have been approved for certification is a very long time to wait. The 90-day wait can have a happier outcome if you send them everything they need to evaluate your eligibility before you test.

When your file is reviewed, your evaluator will be looking for 3 things:

1. A good work history
 2. A current personal recommendation from an appropriate person
 3. Your supervisor's verification (initials) of work elements.
- Be sure that your work history is detailed, informative, and complete. Don't write two sentences to describe three years of work. Give NICET the names of all supervisors, past and present, your job title changes, and the dates of employment at your current and your previous employers.
 - Personal Recommendations stay on file for one year from the signature date. Remember that the same person cannot recommend you and verify your work elements.
 - Remember also that the person whom you have identified as your current supervisor should be the person you use to verify your elements. If you don't have a supervisor (or if your supervisor is not knowledgeable in your technical area), use another person who has been in a position to supervise, inspect or approve your work and explain to NICET at what point in time that person was in such a position.
 - Candidates for Level IV have an additional requirement to submit a major project write-up. Guidelines for this write-up can be found in the current edition of the Program Detail Manual.

If you have left out any of these things or if the work history provided is not sufficiently detailed or complete, your certification will be delayed and NICET will send you a "Conditional Decision Letter" asking for additional information. Once you return the required information, your file will wait in line for a second review.

Additional Resources

1. The NICET website <http://www.nicet.org> includes:
 - Application forms and addenda.
 - Program Detail Manuals.
 - Test locations and dates.
2. Call NICET at 888-IS-NICET.
3. Use your newsreader (Outlook Express, Agent, etc.) to participate in Usenet discussion at alt.engineering.fire-protection

NOTE: If you don't see this newsgroup on your list of newsgroups, email your ISP at news@yourISP.com, substitute the name of your internet service provider for 'yourISP'] and ask that they add this group to their Usenet server.

4. Join the preeminent standard-writing authority NFPA, at <http://www.nfpa.org>. This will give you a voice in the standards-writing cycle and a 10% discount on NFPA publications. It may also be tax deductible!
5. Join the AFAA <http://www.affa.org> or your local chapter.
6. Point your browser to <http://www.etnews.org> where you will find:
 - The latest version of this step-by-step guide.
 - Subscribe to ET News: A weekly email newsletter.
 - The Seminar schedule.
 - NICET Test Preparation Handbook information.
7. Purchase copies of my NICET Test Preparation Handbooks at:
 - Automatic Fire Alarm Association <http://www.affa.org>
 - Building Tech Bookstore <http://www.buildingtechbooks.com>
 - NAAA <http://www.naaa.org>
 - NFPA <http://www.nfpa.org>